eGain SWE Take-Home Assignment

Customer Service Chatbot Interaction Designer

Option #1: Customer Tracking Packages

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Deadline: February 06, 2026

Design Choices

- Chose the package tracking scenario due to how common of a scenario it is. (high-impact use case)
- Implemented a main conversation flow, then added handling for inputs that are empty or not meeting the criteria.
- Focused on making sure the user is redirected back to main flow, whenever errors are presented. (user input)
- Utilized LucidChart to design a flowchart that kept interactions easy to follow and simplified.

Technical Implementation

- Built chatbot using Python through command-line interface
- Utilized loop to keep the main conversation flowing throughout the process of package tracking number retrieval.
- Logic was broken down into functions:
  - Tracking Number Validation:
    - Ensuring the input meets the expected format with two exceptions. 10 exact digits for on-time packages.
  - Package Status Determination:
    - If a package was lost or delayed, the tracking number would have an extra char at the end of the number. Delayed packages end with ‘d’ or ‘D’, while lost packages were represented with ‘l’ or ‘L’ endings.
- Constant User Communication
    - Kept chatbot responsive until the customer’s issue was resolved or they chose to exit the interface.

Challenges:

- Handling unexpected user inputs, while focusing on keeping the main conversation flow.
- Ensuring that invalid inputs are dealt with consistent manner.
- Demonstrating realistic behavior without having access to real-time package shipment APIs.

Future Improvements:

- Integrating with a real-time package shipment API for live tracking updates.
- Incorporating natural language processing for improved user inputs. (increased user experience, more detailed and flexible inputs.)
- On-call customer support agents that can resolve any issue that goes beyond the chatbot.

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Thank you for your time!!

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